

0010

Outgoing
c/007/0005
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From: Jim Smith
To: Austin Belcher; OGMCOAL
CC: Karl Houskeeper
Date: 4/16/2009 3:57 PM
Subject: 1st Quarter 2008 Official Upload and Parameter Report and quarterly Water Quality Memorandum
Place: OGMCOAL
Attachments: jdsWQ08-01.doc; Skyline, 1st Qtr 2008 Official Upload and Parameter Report.doc

Austin:

Attached are the Official Upload and Parameter Report and Quarterly Water Monitoring Report for the 1st Qtr 2008. These are FYI and require no action.

However,

- There are some total Fe, specific conductivity, and water temperature data missing for UPDES point UT0023540-001: see the table under item 2 in the Water Quality Memorandum.
- There are indications your specific conductivity meter may be inaccurate: see the discussion of TDS/Conductivity under item 3 in the Water Quality Memorandum.

I also have some questions on the monitoring plan in the MRP:

- In Table 2.3.7-3 in the MRP, CS-1 is listed as a monitoring point in both Huntington Canyon and Eccles Creek, and furthermore, CS-1 is not listed in Table 2.3.7-1. What's going on with CS-1?
- Why aren't MC-1 through MC-6 included in Table 2.3.7-1? Also, the MRP says monitoring results for these sites are to be included in the Annual Report, but they were not in the 2007 Annual Report - why?

JIM

Jim Smith
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WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

April 16, 2009

TO: Internal File

THRU: Daron Haddock, Permit Supervisor

FROM: James D. Smith, Environmental Scientist III

RE: 2008 First Quarter Water Monitoring, Canyon Fuel Company, LLC,
Skyline Mine, C/007/0005, Task ID #3197

The Skyline Mine is an operating longwall mine. Current operations are in the North Lease area of the mine. Many mined-out areas of the mine have been sealed-off. Water monitoring requirements can be found in Section 2, especially pages 2-36, 2-36a, 2-36b, 2-37, 2-37a, and 2-39aa of the MRP.

1. Were data submitted for all of the MRP required sites? YES ☒ NO ☐

First Quarter monitoring requires information from 15 sites.

In-mine

The MRP requires First Quarter sampling of 6 "in-mine, roof drippers", although all six are actually monitored at the surface. CS-12, CS-14, 3, MD-1, and SRD-1 are mine discharge stations; CS-13 is a french drain; and ELD-1 is the combined output of JC-1 and JC-3. The Permittee submitted all required information for the in-mine sites.

Springs

The MRP does not require First Quarter sampling for springs.

Streams

The MRP requires First Quarter sampling at 4 stream-sites: CS-6, VC-6, VC-9, and VC-10. The Permittee submitted all required information for the stream sites.

Flow at sites NL-1 through NL-42 is measured monthly for 12 months before, during, and 12 months after being undermined by the longwall and reported in the Annual Hydrologic Report (Sec. 2.4.4) and is submitted to the database. The Permittee commits to measuring the flow monthly in June through October; flow will be measured during other months if the sites are accessible. Flow was reported for NL-21, NL-22, and NL-23 during the First Quarter 2008.

Wells

For the First Quarter, only monthly flow measurement is required at JC-1 and JC-3 (the combined flow from these two wells is reported as ELD-1, an in-mine, roof dripper). No other wells are monitored during the First Quarter. The Permittee submitted all required information for the well sites.

UPDES

The UPDES Permit/MRP requires weekly monitoring of 3 outfalls: 001, Sedimentation Pond Discharge to Eccles Creek at the Portal; 002, Sedimentation Pond Discharge to Eccles Creek at the Loadout; and 003, the Sedimentation Discharge at the Waste Rock Disposal Site. DMR parameters are reported to the database as operational parameters; those parameters that are not included in the operational parameter lists in the MRP - such as sanitary wastes, visible foam, and floating solids - are not reported in the electronic submittal to the Division.

Well JC-3 is permitted as a UPDES point by PacifiCorp; for JC-3, Skyline reports only monthly flow during the 1st quarter, and monthly flow and quarterly field parameters, TSD, TSS, and T-P during the 2nd, 3rd, and 4th quarters. JC-3 has not discharged since July of 2004.

The Permittee submitted all required information for the UPDES sites for the First Quarter. Only outfall 001 had reported flow.

2. Were all required parameters reported for each site? YES ☐ NO ☒

SITE	DATE	MISSING PARAMETERS
UT0023540-001	3/14/08	Water temperature, field specific conductivity, and total Fe
UT0023540-001	1/8, 1/24, 2/13, 2/26, and 3/27/08	Total Fe

3. Were any irregularities found in the data? YES ☒ NO ☐

Listed parameters were more than two standard deviations from the mean.

CS-13: bicarbonate as CaCO₃.

Cation/anion balance was within 5% for all samples that were analyzed for the appropriate ions.

The Division calculated the following Reliability Checks, based on previous

Water Quality Reports for the Skyline Mine (for further information on Reliability Checks, see Chapter 4, *Water Quality Data: Analysis and Interpretation* by Arthur W. Hounslow.)

- TDS/Conductivity
 - Out of 18 samples for which both field specific conductivity and TDS were determined, only 5 have TDS/Conductivity ratios < 0.76 , and only one has a ratio < 0.6 ; 7 have a ratio > 0.8 . This ratio is typically between 0.55 and 0.76
 - All 6 samples for which both field specific conductivity and total cations were determined have a Conductivity/Cations ratio of 0.91 or less; this ratio should be close to 1.00.

These two Reliability Checks may be indicating that the meter used to measure field specific conductivity is reading low and that the Permittee needs to calibrate it more frequently, or possibly replace it.

- For CS-13, VC-9, CS-12, CS-6, CS-14, and VC-6, the Division calculated Reliability Checks that involve dissolved Ca, Mg, K, Na, Cl, and SO₄. There were not data on dissolved ions at other sites.
 - Ideally the $\text{Mg}/(\text{Ca} + \text{Mg})$ ratio is $< 40\%$.
 - Of the 6 samples, 5 have a ratio $< 40\%$
 - The CS-12 ratio is right at 40% .
 - All 6 have a $\text{Ca}/(\text{Ca} + \text{SO}_4)$ ratio $< 50\%$.
 - Ideally the ratio is $> 50\%$.
 - Because $\text{Mg}/(\text{Ca} + \text{Mg})$ values are within the expected range, SO₄ values may bear watching.
 - The $\text{K}/(\text{K} + \text{Na})$ ratio should be $< 20\%$.
 - At CS-14 it is 23% .
 - At the other 5 sites, the ratio ranges from 7 to 13% .
 - The $\text{Na}/(\text{Na} + \text{Cl})$ ratio should be $> 50\%$.
 - At CS-13 it is 38%
 - The ratio is 54% to 93% at the 5 other sites.

When Reliability Checks do not meet the target value, it does not necessarily mean that the analyses are in error; however, it does indicate the collection and analysis procedures might benefit from some extra scrutiny by the Permittee. An analysis and explanation of the inconsistencies by the Permittee would help to increase the Division's confidence in the procedures used for sample collection and analysis. The Permittee should work with the lab to make sure that samples pass all quality checks so that the reliability of the samples does not come into question.

UPDES

The UPDES permit in effect during the First Quarter (dated Nov. 23, 2004) allows for a DML for TDS of 1,310 mg/l and a 30-day average of 500 mg/l. There is no tons/day DML unless the 30-day average exceeds 500 mg/l; then a 7.1 tons/day limit is imposed.

For the First Quarter of 2008, the discharge at UPDES Permit discharge point UT0023540-001 Permittee did not exceed the DML for TDS; however, the 30-day average remained well above 500 mg/l and the tons/day load during the First Quarter averaged over 13 tons/day (calculated from the TDS and flow data in the database). Because of such ongoing exceedences, Canyon Fuel Company participates in the Salinity Offset Plan that was approved by DWQ on January 5, 2005 (retroactive to September 2004).

4. On what date does the MRP require a five-year re-sampling of baseline water data.

Beginning in 2010 and every five years thereafter, baseline analyses are to be done on samples collected during the 3rd Quarter (MRP p. 2-44).

5. Based on your review, what further actions, if any, do you recommend?

No further actions are necessary at this time.

6. Does the Mine Operator need to submit more information to fulfill this quarter's monitoring requirements? YES ☒ NO ☐

Several parameters are missing from data for UPDES discharge point UT0023540-001: dissolved Fe is missing from 5 samples, and total Fe, water temperature, and field specific conductivity from one.

7. Follow-up from last quarter, if necessary.

None.

8. Did the Mine Operator submit all the missing and/or irregular data (datum)?

There were no missing or irregular data.

Oil, Gas and Mining
04/14/2009
1st QUARTER 2008 OFFICIAL UPLOAD and PARAMETER REPORT
CANYON FUEL CO., LLC - SKYLINE MINE

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SITE TYPE: Other: in mine, roof drippers

SITE: CS-12

Laboratory: CTE 59-31004 Period: OPER
Sample Date: 03/25/2008 Time: 15:00 Reported: 04/07/2008 Received: 03/26/2008

1-Field Water Temperature	15.400000 Deg. C	Method:
2-pH (fld)	7.560000 pH units	Method:
4-Sp. Conductivity (fld)	1720.000000 umhos/cm	Method:
11-Flow	645.000000 GPM	Method: ALL OTHE
16-Total Suspended Solids	< 5.000000 mg/l	Method: EPA 160.
17-NO2+NO3 as N	.490000 mg/l	Method: EPA 300.
36-Dissolved Calcium	109.470000 mg/l	Method: EPA 200.
42-Dissolved Magnesium	73.780000 mg/l	Method: EPA 200.
45-Dissolved Potassium	16.090000 mg/l	Method: EPA 200.
48-Dissolved Sodium	161.350000 mg/l	Method: EPA 200.
53-Chloride	12.000000 mg/l	Method: EPA 300.
60-Sulfate	494.000000 mg/l	Method: EPA 300.
61-Total Phosphorus	< .050000 mg/l	Method: SM4500-P
62-Total Alkalinity as CaCO3	393.000000 mg/l	Method: SM2320-B
63-Total Hardness as CaCO3	577.000000 mg/l	Method: SM2340-B
68-Total Dissolved Solids @ 180 C	1090.000000 mg/l	Method: EPA 160.
71-Bicarbonate as CaCO3	393.000000 mg/l	Method: SM2320-B
72-Carbonate as CaCO3	< 5.000000 mg/l	Method: SM2320-B
133-Total Cations	19.000000 meq/l	Method:
134-Total Anions	18.500000 meq/l	Method:
135-Cation/Anion Balance	1.300000 PC DIFF	Method:
145-Total Iron	.240000 mg/l	Method: EPA 200.
149-Total Manganese	.180000 mg/l	Method: EPA 200.

SITE: CS-13

Laboratory: CTE 59-31007 Period: OPER
Sample Date: 03/25/2008 Time: 17:15 Reported: 04/07/2008 Received: 03/26/2008

1-Field Water Temperature	4.700000 Deg. C	Method:
2-pH (fld)	7.900000 pH units	Method:
4-Sp. Conductivity (fld)	1041.000000 umhos/cm	Method:
11-Flow	1.900000 GPM	Method: ALL OTHE
16-Total Suspended Solids	< 5.000000 mg/l	Method: EPA 160.
17-NO2+NO3 as N	.080000 mg/l	Method: EPA 300.
36-Dissolved Calcium	156.610000 mg/l	Method: EPA 200.
42-Dissolved Magnesium	44.650000 mg/l	Method: EPA 200.
45-Dissolved Potassium	3.160000 mg/l	Method: EPA 200.
48-Dissolved Sodium	42.840000 mg/l	Method: EPA 200.
53-Chloride	69.000000 mg/l	Method: EPA 300.
60-Sulfate	251.000000 mg/l	Method: EPA 300.
61-Total Phosphorus	< .050000 mg/l	Method: SM4500-P
62-Total Alkalinity as CaCO3	295.000000 mg/l	Method: SM2320-B
63-Total Hardness as CaCO3	575.000000 mg/l	Method: SM2340-B
68-Total Dissolved Solids @ 180 C	794.000000 mg/l	Method: EPA 160.
71-Bicarbonate as CaCO3	295.000000 mg/l	Method: SM2320-B
This Parameter is out by 2.27 Standard Deviations(STD). One STD is 11.15 with a mean of 320.25.		
72-Carbonate as CaCO3	< 5.000000 mg/l	Method: SM2320-B
133-Total Cations	13.400000 meq/l	Method:
134-Total Anions	13.100000 meq/l	Method:
135-Cation/Anion Balance	1.400000 PC DIFF	Method:
145-Total Iron	.110000 mg/l	Method: EPA 200.
149-Total Manganese	.089000 mg/l	Method: EPA 200.

SITE: CS-14

Laboratory: CTE 59-31009 Period:OPER
Sample Date: 03/25/2008 Time: 18:15 Reported: 04/07/2008 Received: 03/26/2008

1-Field Water Temperature	13.500000 Deg. C	Method:
2-pH (fld)	7.290000 pH units	Method:
4-Sp. Conductivity (fld)	726.000000 umhos/cm	Method:
11-Flow	3179.000000 GPM	Method: ALL OTHE
16-Total Suspended Solids	< 5.000000 mg/l	Method: EPA 160.
17-NO2+NO3 as N	.460000 mg/l	Method: EPA 300.
36-Dissolved Calcium	78.160000 mg/l	Method: EPA 200.
42-Dissolved Magnesium	40.710000 mg/l	Method: EPA 200.
45-Dissolved Potassium	7.110000 mg/l	Method: EPA 200.
48-Dissolved Sodium	24.150000 mg/l	Method: EPA 200.
53-Chloride	4.000000 mg/l	Method: EPA 300.
60-Sulfate	137.000000 mg/l	Method: EPA 300.
61-Total Phosphorus	< .050000 mg/l	Method: SM4500-P
62-Total Alkalinity as CaCO3	269.000000 mg/l	Method: SM2320-B
63-Total Hardness as CaCO3	363.000000 mg/l	Method: SM2340-B
68-Total Dissolved Solids @ 180 C	446.000000 mg/l	Method: EPA 160.
71-Bicarbonate as CaCO3	269.000000 mg/l	Method: SM2320-B
72-Carbonate as CaCO3	< 5.000000 mg/l	Method: SM2320-B
133-Total Cations	8.500000 meq/l	Method:
134-Total Anions	8.300000 meq/l	Method:
135-Cation/Anion Balance	.800000 PC DIFF	Method:
145-Total Iron	.220000 mg/l	Method: EPA 200.
149-Total Manganese	.011000 mg/l	Method: EPA 200.

SITE: ELD-1

Laboratory: FLD 20080115-3 Period:OPER
Sample Date: 01/15/2008 Time: 12:00 Reported: Received:
Comments: Monthly Average FLOW
11-Flow 3851.000000 GPM Method: ALL OTHE

Laboratory: FLD 20080215-3 Period:OPER
Sample Date: 02/15/2008 Time: 12:00 Reported: Received:
Comments: Monthly Average Flow
11-Flow 4203.000000 GPM Method: ALL OTHE

Laboratory: FLD 20080315-3 Period:OPER
Sample Date: 03/15/2008 Time: 12:00 Reported: Received:
Comments: Monthly Average Flow
11-Flow 4083.000000 GPM Method: ALL OTHE

SITE: MD-1

Laboratory: CTE 59-30859d Period:OPER
Sample Date: 01/02/2008 Time: 13:30 Reported: 01/11/2008 Received: 01/02/2008
Comments: Duplicate of UPDES-001
11-Flow 4228.000000 GPM Method: ALL OTHE
16-Total Suspended Solids < 5.000000 mg/l Method: EPA 160.
61-Total Phosphorus < .050000 mg/l Method: SM4500P-
68-Total Dissolved Solids @ 180 C 561.000000 mg/l Method: EPA 160.

Laboratory: FLD 20080115-2 Period:OPER
Sample Date: 01/15/2008 Time: 12:00 Reported: Received:
Comments: Monthly Average Flow
11-Flow 4103.000000 GPM Method: ALL OTHE

Laboratory: FLD 20080215-2 Period:OPER
Sample Date: 02/15/2008 Time: 12:00 Reported: Received:
Comments: Monthly Average Flow
11-Flow 3955.000000 GPM Method: ALL OTHE

Laboratory: FLD 20080315-2 Period:OPER
Sample Date: 03/15/2008 Time: 12:00 Reported: Received:
Comments: Monthly Average Flow
11-Flow 4067.000000 GPM Method: ALL OTHE

SITE: SRD-1

Laboratory: FLD 20080115-4 Period:OPER
Sample Date: 01/15/2008 Time: 12:00 Reported: Received:
Comments: Monthly Average Flow
11-Flow 4103.000000 GPM Method: ALL OTHE

Laboratory: FLD 20080215-4 Period:OPER
Sample Date: 02/15/2008 Time: 12:00 Reported: Received:
Comments: Monthly Average Flow
11-Flow 3955.000000 GPM Method: ALL OTHE

Laboratory: FLD 20080315-4 Period:OPER
Sample Date: 03/15/2008 Time: 12:00 Reported: Received:
Comments: Monthly Average Flow
11-Flow 4067.000000 GPM Method: ALL OTHE

SITE TYPE: Stream

SITE: CS-6

Laboratory: CTE 59-31006 Period:OPER
Sample Date: 03/25/2008 Time: 16:45 Reported: 04/07/2008 Received: 03/26/2008
1-Field Water Temperature 9.940000 Deg. C Method:
2-pH (fld) 8.500000 pH units Method:
3-Dissolved Oxygen (field) 8.200000 mg/l Method:
4-Sp. Conductivity (fld) 818.000000 umhos/cm Method:
11-Flow 5540.000000 GPM Method: ALL OTHE
16-Total Suspended Solids 19.000000 mg/l Method: EPA 160.
17-NO2+NO3 as N .400000 mg/l Method: EPA 300.
36-Dissolved Calcium 71.280000 mg/l Method: EPA 200.
42-Dissolved Magnesium 40.390000 mg/l Method: EPA 200.
45-Dissolved Potassium 6.920000 mg/l Method: EPA 200.
48-Dissolved Sodium 57.040000 mg/l Method: EPA 200.
53-Chloride 48.000000 mg/l Method: EPA 300.
60-Sulfate 152.000000 mg/l Method: EPA 300.
61-Total Phosphorus < .050000 mg/l Method: SM4500-P
62-Total Alkalinity as CaCO3 228.000000 mg/l Method: SM2320-B
63-Total Hardness as CaCO3 344.000000 mg/l Method: SM2340-B
68-Total Dissolved Solids @ 180 C 515.000000 mg/l Method: EPA 160.
71-Bicarbonate as CaCO3 228.000000 mg/l Method: SM2320-B
72-Carbonate as CaCO3 < 5.000000 mg/l Method: SM2320-B
133-Total Cations 9.500000 meq/l Method:
134-Total Anions 9.100000 meq/l Method:
135-Cation/Anion Balance 2.500000 PC DIFF Method:
145-Total Iron .320000 mg/l Method: EPA 200.
149-Total Manganese .033000 mg/l Method: EPA 200.

SITE: NL-21

NO FLOW Date: 01/03/2008 Time: 14:00
Comments: 8-ft snow - creek dry/frozen

Laboratory: FLD 20080215-5 Period:OPER
Sample Date: 02/15/2008 Time: 13:30 Reported: Received:
Comments: 10+ ft of snow
11-Flow 1.875000 GPM Method: ALL OTHE

Laboratory: FLD 20080313-1 Period:BASE
Sample Date: 03/13/2008 Time: 13:00 Reported: Received:
Comments: 10+ ft of snow
11-Flow 6.100000 GPM Method: ALL OTHE

SITE: NL-22

NO ACCESS Date: 01/03/2008 Time: 14:30
Comments: 8-ft snow - creek dry/frozen

NO FLOW Date: 02/15/2008 Time: 14:30
Comments: 10+ ft of snow - Frozen

Laboratory: FLD 20080313-2 Period:BASE
Sample Date: 03/13/2008 Time: 14:00 Reported: Received:
Comments: 10+ ft of snow
11-Flow 7.000000 GPM Method: ALL OTHE

SITE: NL-23

NO ACCESS Date: 01/03/2008 Time: 15:30
Comments: 8-ft snow - creek dry/frozen

NO FLOW Date: 02/15/2008 Time: 15:30
Comments: 10+ ft of snow - Frozen

NO FLOW Date: 03/13/2008 Time: 15:30
Comments: 10+ ft of snow Frozen

SITE: VC-10

Laboratory: FLD 20080325-1 Period:OPER
Sample Date: 03/25/2008 Time: 16:00 Reported: 05/23/2008 Received:
1-Field Water Temperature .700000 Deg. C Method: NONE
2-pH (fld) 8.210000 pH units Method: NONE
4-Sp. Conductivity (fld) 395.000000 umhos/cm Method: NONE
11-Flow 16.000000 GPM Method: ALL OTHE

SITE: VC-6

Laboratory: CTE 59-31005 Period:OPER
Sample Date: 03/25/2008 Time: 15:30 Reported: 04/09/2008 Received: 03/26/2008
1-Field Water Temperature 12.300000 Deg. C Method:
2-pH (fld) 8.340000 pH units Method:
3-Dissolved Oxygen (field) 8.130000 mg/l Method:
4-Sp. Conductivity (fld) 923.000000 umhos/cm Method:
11-Flow 4320.000000 GPM Method: ALL OTHE
16-Total Suspended Solids 19.000000 mg/l Method: EPA 160.
17-NO2+NO3 as N .510000 mg/l Method: EPA 300.
19-Oil/Grease < 2.000000 mg/l Method: EPA 413.
36-Dissolved Calcium 81.120000 mg/l Method: EPA 200.
42-Dissolved Magnesium 42.920000 mg/l Method: EPA 200.
45-Dissolved Potassium 7.700000 mg/l Method: EPA 200.
48-Dissolved Sodium 53.620000 mg/l Method: EPA 200.
53-Chloride 36.000000 mg/l Method: EPA 300.
60-Sulfate 168.000000 mg/l Method: EPA 300.
61-Total Phosphorus < .050000 mg/l Method: SM4500-P
62-Total Alkalinity as CaCO3 247.000000 mg/l Method: SM2320-B
63-Total Hardness as CaCO3 379.000000 mg/l Method: SM2340-B
68-Total Dissolved Solids @ 180 C 532.000000 mg/l Method: EPA 160.
71-Bicarbonate as CaCO3 247.000000 mg/l Method: SM2320-B
72-Carbonate as CaCO3 < 5.000000 mg/l Method: SM2320-B
133-Total Cations 10.100000 meq/l Method:
134-Total Anions 9.500000 meq/l Method:
135-Cation/Anion Balance 3.400000 PC DIFF Method:
145-Total Iron .360000 mg/l Method: EPA 200.
149-Total Manganese .042000 mg/l Method: EPA 200.

SITE: VC-9

Laboratory: CTE 59-31008 Period:OPER
Sample Date: 03/25/2008 Time: 18:15 Reported: 04/09/2008 Received: 03/26/2008
1-Field Water Temperature 9.700000 Deg. C Method:
2-pH (fld) 8.390000 pH units Method:
3-Dissolved Oxygen (field) 8.510000 mg/l Method:
4-Sp. Conductivity (fld) 838.000000 umhos/cm Method:
11-Flow 5000.000000 GPM Method: ALL OTHE
16-Total Suspended Solids 17.000000 mg/l Method: EPA 160.
17-NO2+NO3 as N .400000 mg/l Method: EPA 300.

19-Oil/Grease	< 2.000000 mg/l	Method: EPA 413.
36-Dissolved Calcium	72.280000 mg/l	Method: EPA 200.
42-Dissolved Magnesium	41.140000 mg/l	Method: EPA 200.
45-Dissolved Potassium	7.200000 mg/l	Method: EPA 200.
48-Dissolved Sodium	59.650000 mg/l	Method: EPA 200.
53-Chloride	51.000000 mg/l	Method: EPA 300.
60-Sulfate	160.000000 mg/l	Method: EPA 300.
61-Total Phosphorus	< .050000 mg/l	Method: SM4500-P
62-Total Alkalinity as CaCO3	226.000000 mg/l	Method: SM2320-B
63-Total Hardness as CaCO3	350.000000 mg/l	Method: SM2340-B
68-Total Dissolved Solids @ 180 C	535.000000 mg/l	Method: EPA 160.
71-Bicarbonate as CaCO3	226.000000 mg/l	Method: SM2320-B
72-Carbonate as CaCO3	< 5.000000 mg/l	Method: SM2320-B
133-Total Cations	9.800000 meq/l	Method:
134-Total Anions	9.300000 meq/l	Method:
135-Cation/Anion Balance	2.500000 PC DIFF	Method:
145-Total Iron	.310000 mg/l	Method: EPA 200.
149-Total Manganese	.032000 mg/l	Method: EPA 200.

SITE TYPE: UPDES Permit discharge point

SITE: JC-3

NO FLOW Date: 01/15/2008 Time: 12:00
Comments: NO FLOW ALL MONTH

NO FLOW Date: 02/15/2008 Time: 12:00
Comments: NO FLOW ALL MONTH

NO FLOW Date: 03/15/2008 Time: 12:00
Comments: NO FLOW ALL MONTH

SITE: UT0023540-001

Laboratory: CTE 59-30859 Period:UPDS
Sample Date: 01/02/2008 Time: 13:30 Reported: 01/11/2008 Received: 01/02/2008

1-Field Water Temperature	14.200000 Deg. C	Method:
2-pH (fld)	7.450000 pH units	Method:
4-Sp. Conductivity (fld)	685.000000 umhos/cm	Method:
11-Flow	4311.000000 GPM	Method: ALL OTHE
16-Total Suspended Solids	< 5.000000 mg/l	Method: EPA 160.
19-Oil/Grease	< 2.000000 mg/l	Method: EPA 413.
61-Total Phosphorus	< .050000 mg/l	Method: SM4500-P
68-Total Dissolved Solids @ 180 C	561.000000 mg/l	Method: EPA 160.
135-Cation/Anion Balance	1.000000 PC DIFF	Method:
145-Total Iron	.150000 mg/l	Method: EPA 200.

Laboratory: CTE 59-30870 Period:UPDS
Sample Date: 01/08/2008 Time: 13:15 Reported: 01/23/2008 Received: 01/11/2008

1-Field Water Temperature	13.100000 Deg. C	Method:
2-pH (fld)	7.430000 pH units	Method:
4-Sp. Conductivity (fld)	675.000000 umhos/cm	Method:
11-Flow	4110.000000 GPM	Method: ALL OTHE
16-Total Suspended Solids	< 5.000000 mg/l	Method: EPA 160.
19-Oil/Grease	< 2.000000 mg/l	Method: EPA 413.
68-Total Dissolved Solids @ 180 C	527.000000 mg/l	Method: EPA 160.
135-Cation/Anion Balance	1.000000 PC DIFF	Method:

Laboratory: CTE 59-30875 Period:UPDS
Sample Date: 01/15/2008 Time: 13:30 Reported: 01/24/2008 Received: 01/16/2008

1-Field Water Temperature	14.000000 Deg. C	Method:
2-pH (fld)	7.490000 pH units	Method:
4-Sp. Conductivity (fld)	678.000000 umhos/cm	Method:
11-Flow	3950.000000 GPM	Method: ALL OTHE
16-Total Suspended Solids	< 5.000000 mg/l	Method: EPA 160.
19-Oil/Grease	< 2.000000 mg/l	Method: EPA 413.
68-Total Dissolved Solids @ 180 C	560.000000 mg/l	Method: EPA 160.
135-Cation/Anion Balance	1.000000 PC DIFF	Method:

145-Total Iron .210000 mg/l Method: EPA 200.

Laboratory: CTE 59-30878 Period:UPDS

Sample Date: 01/24/2008 Time: 13:30 Reported: 02/11/2008 Received: 01/29/2008

1-Field Water Temperature 14.500000 Deg. C Method:
2-pH (fld) 7.360000 pH units Method:
4-Sp. Conductivity (fld) 696.000000 umhos/cm Method:
11-Flow 4335.000000 GPM Method: ALL OTHE
16-Total Suspended Solids < 5.000000 mg/l Method: EPA 160.
19-Oil/Grease < 2.000000 mg/l Method: EPA 413.
68-Total Dissolved Solids @ 180 C 549.000000 mg/l Method: EPA 160.
135-Cation/Anion Balance 1.000000 PC DIFF Method:

Laboratory: CTE 59-30881 Period:UPDS

Sample Date: 01/29/2008 Time: 12:00 Reported: 02/11/2008 Received: 01/29/2008

1-Field Water Temperature 13.900000 Deg. C Method:
2-pH (fld) 7.320000 pH units Method:
4-Sp. Conductivity (fld) 701.000000 umhos/cm Method:
11-Flow 4142.000000 GPM Method: ALL OTHE
16-Total Suspended Solids < 5.000000 mg/l Method: EPA 160.
19-Oil/Grease < 2.000000 mg/l Method: EPA 413.
68-Total Dissolved Solids @ 180 C 547.000000 mg/l Method: EPA 160.
135-Cation/Anion Balance 1.000000 PC DIFF Method:
145-Total Iron .150000 mg/l Method: EPA 200.

Laboratory: CTE 59-30888 Period:UPDS

Sample Date: 02/05/2008 Time: 13:00 Reported: 02/21/2008 Received: 02/07/2008

1-Field Water Temperature 13.500000 Deg. C Method:
2-pH (fld) 7.440000 pH units Method:
4-Sp. Conductivity (fld) 698.000000 umhos/cm Method:
11-Flow 4316.000000 GPM Method: ALL OTHE
16-Total Suspended Solids < 5.000000 mg/l Method: EPA 160.
19-Oil/Grease < 2.000000 mg/l Method: EPA 413.
68-Total Dissolved Solids @ 180 C 584.000000 mg/l Method: EPA 160.
135-Cation/Anion Balance 1.000000 PC DIFF Method:
145-Total Iron .240000 mg/l Method: EPA 200.

Laboratory: CTE 59-30892 Period:UPDS

Sample Date: 02/13/2008 Time: 10:30 Reported: 02/21/2008 Received: 02/13/2008

1-Field Water Temperature 13.600000 Deg. C Method:
2-pH (fld) 7.410000 pH units Method:
4-Sp. Conductivity (fld) 704.000000 umhos/cm Method:
11-Flow 3949.000000 GPM Method: ALL OTHE
16-Total Suspended Solids < 5.000000 mg/l Method: EPA 160.
19-Oil/Grease < 2.000000 mg/l Method: EPA 413.
68-Total Dissolved Solids @ 180 C 570.000000 mg/l Method: EPA 160.
135-Cation/Anion Balance 1.000000 PC DIFF Method:

Laboratory: CTE 59-30900 Period:UPDS

Sample Date: 02/19/2008 Time: 13:10 Reported: 02/26/2008 Received: 02/20/2008

1-Field Water Temperature 14.100000 Deg. C Method:
2-pH (fld) 7.360000 pH units Method:
4-Sp. Conductivity (fld) 692.000000 umhos/cm Method:
11-Flow 3858.000000 GPM Method: ALL OTHE
16-Total Suspended Solids < 5.000000 mg/l Method: EPA 160.
19-Oil/Grease < 2.000000 mg/l Method: EPA 413.
68-Total Dissolved Solids @ 180 C 534.000000 mg/l Method: EPA 160.
135-Cation/Anion Balance 1.000000 PC DIFF Method:
145-Total Iron .180000 mg/l Method: EPA 200.

Laboratory: CTE 59-30911 Period:UPDS

Sample Date: 02/26/2008 Time: 12:00 Reported: 03/05/2008 Received: 02/26/2008

1-Field Water Temperature 13.700000 Deg. C Method:
2-pH (fld) 7.310000 pH units Method:
4-Sp. Conductivity (fld) 690.000000 umhos/cm Method:
11-Flow 4148.000000 GPM Method: ALL OTHE
16-Total Suspended Solids 5.000000 mg/l Method: EPA 160.
Comments: Confirmed lab sheet
19-Oil/Grease < 2.000000 mg/l Method: EPA 413.
68-Total Dissolved Solids @ 180 C 549.000000 mg/l Method: EPA 160.
135-Cation/Anion Balance 1.000000 PC DIFF Method:

Laboratory: CTE 59-30950 Period:UPDS
Sample Date: 03/04/2008 Time: 12:00 Reported: 03/17/2008 Received: 03/06/2008
1-Field Water Temperature 13.600000 Deg. C Method:
2-pH (fld) 7.320000 pH units Method:
4-Sp. Conductivity (fld) 699.000000 umhos/cm Method:
11-Flow 4157.000000 GPM Method: ALL OTHE
16-Total Suspended Solids < 5.000000 mg/l Method: EPA 160.
19-Oil/Grease < 2.000000 mg/l Method: EPA 413.
68-Total Dissolved Solids @ 180 C 563.000000 mg/l Method: EPA 160.
135-Cation/Anion Balance 1.000000 PC DIFF Method:
145-Total Iron .390000 mg/l Method: EPA 200.

Laboratory: CTE 59-30959 Period:UPDS
Sample Date: 03/14/2008 Time: 13:30 Reported: 04/03/2008 Received: 03/19/2008
2-pH (fld) 7.240000 pH units Method: NONE
11-Flow 3908.000000 GPM Method: ALL OTHE
16-Total Suspended Solids < 5.000000 mg/l Method: EPA 160.
19-Oil/Grease < 2.000000 mg/l Method: EPA 413.
68-Total Dissolved Solids @ 180 C 572.000000 mg/l Method: EPA 160.
135-Cation/Anion Balance 1.000000 PC DIFF Method:

Laboratory: CTE 59-30977 Period:UPDS
Sample Date: 03/20/2008 Time: 15:00 Reported: 04/03/2008 Received: 03/24/2008
1-Field Water Temperature 14.000000 Deg. C Method:
2-pH (fld) 7.280000 pH units Method:
4-Sp. Conductivity (fld) 709.000000 umhos/cm Method:
11-Flow 4010.000000 GPM Method: ALL OTHE
16-Total Suspended Solids < 5.000000 mg/l Method: EPA 160.
19-Oil/Grease < 2.000000 mg/l Method: EPA 413.
68-Total Dissolved Solids @ 180 C 579.000000 mg/l Method: EPA 160.
135-Cation/Anion Balance 1.000000 PC DIFF Method:
136-Total Aluminum < .030000 mg/l Method: EPA 200.
145-Total Iron .190000 mg/l Method: EPA 200.

Laboratory: CTE 59-31024 Period:UPDS
Sample Date: 03/27/2008 Time: 15:25 Reported: 04/09/2008 Received: 03/28/2008
1-Field Water Temperature 14.000000 Deg. C Method:
2-pH (fld) 7.220000 pH units Method:
4-Sp. Conductivity (fld) 727.000000 umhos/cm Method:
11-Flow 3949.000000 GPM Method: ALL OTHE
16-Total Suspended Solids < 5.000000 mg/l Method: EPA 160.
19-Oil/Grease < 2.000000 mg/l Method: EPA 413.
68-Total Dissolved Solids @ 180 C 586.000000 mg/l Method: EPA 160.
135-Cation/Anion Balance 1.000000 PC DIFF Method:

SITE: UT0023540-002

NO FLOW Date: 01/01/2008 Time: 00:50

NO FLOW Date: 01/01/2008 Time: 11:30

NO FLOW Date: 01/01/2008 Time: 12:10

NO FLOW Date: 01/02/2008 Time: 13:00
Comments: Dry - Frozen

NO FLOW Date: 01/08/2008 Time: 12:45
Comments: Dry - Frozen

NO FLOW Date: 01/15/2008 Time: 13:00
Comments: Dry - Frozen

NO FLOW Date: 01/24/2008 Time: 13:00
Comments: Dry - Frozen

NO FLOW Date: 01/29/2008 Time: 11:30
Comments: Dry - Frozen

NO FLOW Date: 02/05/2008 Time: 12:30

Comments: Dry - Frozen

NO FLOW Date: 02/13/2008 Time: 10:00
Comments: Dry - Frozen

NO FLOW Date: 02/19/2008 Time: 12:30
Comments: Dry - Frozen

NO FLOW Date: 02/26/2008 Time: 11:30
Comments: Dry - Frozen

NO FLOW Date: 03/04/2008 Time: 12:45
Comments: Dry - Frozen

NO FLOW Date: 03/14/2008 Time: 12:45
Comments: No Flow - Frozen

NO FLOW Date: 03/20/2008 Time: 14:30
Comments: No Flow - Frozen

NO FLOW Date: 03/27/2008 Time: 15:10
Comments: No Flow - Frozen

SITE: UT0023540-003

NO FLOW Date: 01/01/2008 Time: 00:50

NO FLOW Date: 01/01/2008 Time: 11:30

NO FLOW Date: 01/01/2008 Time: 12:10

NO ACCESS Date: 01/02/2008 Time: 13:00
Comments: Dry - Frozen

NO ACCESS Date: 01/08/2008 Time: 12:45
Comments: Dry - Frozen

NO ACCESS Date: 01/15/2008 Time: 13:00
Comments: Dry - Frozen

NO ACCESS Date: 01/24/2008 Time: 13:00
Comments: Dry - Frozen

NO ACCESS Date: 01/29/2008 Time: 11:30
Comments: Dry - Frozen

NO ACCESS Date: 02/05/2008 Time: 12:30
Comments: Dry - Frozen

NO ACCESS Date: 02/13/2008 Time: 10:00
Comments: Dry - Frozen

NO ACCESS Date: 02/19/2008 Time: 12:30
Comments: Dry - Frozen

NO ACCESS Date: 02/26/2008 Time: 11:30
Comments: Dry - Frozen

NO ACCESS Date: 03/04/2008 Time: 12:45
Comments: Dry - Frozen

NO ACCESS Date: 03/14/2008 Time: 12:45
Comments: No Flow - Frozen

NO ACCESS Date: 03/20/2008 Time: 14:30
Comments: No Flow - Frozen

NO ACCESS Date: 03/27/2008 Time: 15:10
Comments: No Flow - Frozen

SITE TYPE: Well

SITE: JC-1

Laboratory: FLD 20080115-1	Period: OPER	Received:
Sample Date: 01/15/2008	Time: 12:00	Reported:
Comments: Monthly Average Flow		
11-Flow	3851.000000 GPM	Method: ALL OTHE

Laboratory: FLD 20080215-1	Period: OPER	Received:
Sample Date: 02/15/2008	Time: 12:00	Reported:
Comments: Monthly Average Flow		
11-Flow	4203.000000 GPM	Method: ALL OTHE

Laboratory: FLD 20080315-1	Period: OPER	Received:
Sample Date: 03/15/2008	Time: 12:00	Reported:
Comments: Monthly Average Flow		
11-Flow	4083.000000 GPM	Method: ALL OTHE